In the specification

Please amend the paragraph beginning at page 77, line 25 as follows:

The VSV G-pseudotyped LNBOTDC viruses were concentrated to a high titer by one cycle of ultracentrifugation. However, two cycles can be performed for further concentration. The frozen culture medium collected as described in Example 2 which contained pseudotyped LNBOTDC virus was thawed in a 37°C water bath and was then transferred to Oakridge® centrifuge tubes (50 ml Oakridge tubes with sealing caps, Nalge Nunc International) previously sterilized by autoclaving. The virus was sedimented in a JA20 rotor (Beckman) at 48,000 x g (20,000 rpm) at 4°C for 120 min. The culture medium was then removed from the tubes in a biosafety hood and the media remaining in the tubes was aspirated to remove the supernatent. The virus pellet was resuspended to 0.5 to 1% of the original volume of culture medium DMEM. The resuspended virus pellet was incubated overnight at 4°C without swirling. The virus pellet could be dispersed with gentle pipetting after the overnight incubation without significant loss of infectious virus. The titer of the virus stock was routinely increased 100- to 300-fold after one round of ultracentrifugation. The efficiency of recovery of infectious virus varied between 30 and 100%.

Please amend the paragraph beginning at page 104, line 13 as follows:

The VSV G-pseudotyped viruses were concentrated to a high titer by one cycle of ultracentrifugation. However, in certain embodiments, two cycles are performed for further concentration. The culture medium collected and filtered as described in Example 26 which contained pseudotyped virus was transferred to Oakridge® centrifuge tubes (50 ml Oakridge® tubes with sealing caps, Nalge Nunc International) previously sterilized by autoclaving. The virus was sedimented in a JA20 rotor (Beckman) at 48,000 x g (20,000 rpm) at 4°C for 120 min. The culture medium was then removed from the tubes in a biosafety hood and the media remaining in the tubes was aspirated to remove the supernatant. The virus pellet was resuspended to 0.5 to 1% of the original volume in 0.1X HBSS. The resuspended virus pellet was incubated overnight at 4°C without swirling. The virus pellet could be dispersed with gentle pipetting after the overnight incubation without significant loss of infectious virus. The titer of

the virus stock was routinely increased 100- to 300-fold after one round of ultracentrifugation. The efficiency of recovery of infectious virus varied between 30 and 100%.

Please amend the paragraph beginning at page 8, line 6 as follows:

Figure 17 provides a graph depicting the INVADER® Assay gene ratio in CMV promoter cell lines.

Please amend the paragraph beginning at page 8, line 6 as follows:

Figure 18 provides a graph depicting the INVADER® Assay gene ratio in α-lactalbumin promotor cell lines.

Please amend the paragraph beginning at page 46, line 10 as follows:

In some embodiments, after transfection or transduction, the cells are allowed to multiply, and are then trypsinized and replated. Individual colonies are then selected to provide clonally selected cell lines. In still further embodiments, the clonally selected cell lines are screened by Southern blotting or INVADER® assay to verify that the desired number of integration events has occurred. It is also contemplated that clonal selection allows the identification of superior protein producing cell lines. In other embodiments, the cells are not clonally selected following transfection.

Please amend the paragraph beginning at page 48, line 30 as follows:

In other embodiments, nucleic acid encoding the protein of interest is detected. For example, in some embodiments, a PCR assay is performed using primers specific for the protein of interest. In other embodiments, nucleic acid is detected via a hybridization assay (*e.g.*, including, but not limited to, Southern Blot, Northern Blot, INVADER® Assay (Third Wave Technologies, Madison, WI), TaqMan assay (Applied Biosystems, Foster City, CA), and SNP-IT primer extension assay (Orchid Biosciences, Princeton, NJ).

Please amend the paragraph beginning at page 89, line 5 as follows:

This example describes the relationship of multiplicity of infection, gene copy number, and protein expression. Three DNA assays were developed using the INVADER® Assay system

(Third Wave Technologies, Madison, WI). One of the assays detects a portion of the bovine α -lactalbumin 5' flanking region. This assay is specific for bovine and does not detect the porcine or human α -lactalbumin gene. This assay will detect two copies of the α -lactalbumin gene in all control bovine DNA samples and also in bovine mammary epithelial cells. The second assay detects a portion of the extended packaging region from the MLV virus. This assay is specific for this region and does not detect a signal in the 293 human cell line, bovine mammary epithelial cell line or bovine DNA samples. Theoretically, all cell lines or other samples not infected with MLV should not produce a signal. However, since the 293GP cell line was produced with the extended packaging region of DNA, this cell line gives a signal when the assay is run. From the initial analysis, it appears that the 293GP cell line contains two copies of the extended packing region sequence that are detected by the assay. The final assay is the control assay. This assay detects a portion of the insulin-like growth factor I gene that is identical in bovine, porcine, humans and a number of other species. It is used as a control on every sample that is run in order to determine the amount of signal that is generated from this sample for a two copy gene. All samples that are tested should contain two copies of the control gene.

Please amend the paragraph beginning at page 91, line 7 as follows:

Invader® Assay Gene Ratio and Cell Line Protein Production

Bovine mammary epithelial cells were infected with either the CMV driven MN14 construct or the α -lactalbumin driven MN14 construct. The cells were infected at a 1000 to 1 vector to cell ratio. The infected cells were expanded. Clonal cell lines were established for both the α -LA and CMV containing cells from this initial pooled population of cells. Approximately 50 cell lines were produced for each gene construct. Individual cells were placed in 96 well plates and then passaged into the same well to allow the cells to grow to confluency. Once the cells lines reached confluency, they were assayed for MN14 production over a 24 hour period. The clonal production of MN14 from CMV cell lines ranged from 0 ng/ml/day to 5500 ng/ml/day. The average production of all cell clones was 1984 ng/ml/day. The α -LA cell clones showed similar trends. The clonal production of MN14 from α -LA cell lines ranged from 0 ng/ml/day to 2800 ng/ml/day. The average production of these cell clones was 622 ng/ml/day.

Please amend the paragraph beginning at page 91, line 20 as follows:

For further analysis of these clonal lines, fifteen CMV clones and fifteen α -LA clones were selected. Five highest expressing, five low expressing and five mid-level expressing lines were chosen. These thirty cell lines were expanded and banked. DNA was isolated from most all of the thirty cell lines. The cell lines were passed into 6 well plates and grown to confluency. Once at confluency, the media was changed every 24 hours and two separate collections from each cell line were assayed for MN14 production. The results of these two assays were averaged and these numbers were used to create Tables 6 and 7 below. DNA from the cell lines was run using the Invader® extended packaging region assay and the results are shown below. The Tables show the cell line number, corresponding gene ratio and antibody production.

Please amend the paragraph beginning at page 93, line 10 as follows:

Invader® Assay Gene Ratio and Multiple Cell Line Infections

Two packaging cell lines (293GP) produced using previously described methods were used to produce replication defective retroviral vector. One of the cell lines contains a retroviral gene construct that expresses the botulinum toxin antibody gene from the CMV promoter (LTR-Extended Viral Packaging Region-Neo Gene-CMV Promoter-Bot Light Chain Gene-IRES-Bot Heavy Chain Gene-LTR), the other cell line contains a retroviral gene construct that expresses the YP antibody gene from the CMV promoter (LTR-Extended Viral Packaging Region-Neo Gene-CMV Promoter-YP Heavy Chain Gene-IRES-YP Light Chain Gene-WPRE-LTR). In addition to being able to produce replication defective retroviral vector, each of these cell lines also produce either botulinum toxin antibody or YP antibody.

Please amend the paragraph beginning at page 95, line 29 as follows:

This example describes the expression of a G-Protein Coupled Receptor protein (GPCR) from a retroviral vector. This example also describes the expression of a signal protein from an IRES as a marker for expression of a difficult to assay protein or a protein that has no assay such as a GPCR. The gene construct (SEQ ID NO: 34; Figure 19) comprises a G-protein-coupled receptor followed by the IRES-signal peptide-antibody light chain cloned into the MCS of pLBCX retroviral backbone. Briefly, a PvuII/PvuII fragment (3057 bp) containing the GPCR-IRES-antibody light chain was cloned into the StuI site of pLBCX. pLBCX contains the EM7

(T7) promoter, Blasticidin® gene and SV40 polyA in place of the Neomycin resistance gene from pLNCX.

Please amend the paragraph beginning at page 96, line 7 as follows:

The gene construct was used to produce a replication defective retroviral packaging cell line and this cell line was used to produce replication defective retroviral vector. The vector produced from this cell line was then used to infect 293GP cells (human embryonic kidney cells). After infection, the cells were placed under Blasticidin® selection and single cell Blasticidin® resistant clones were isolated. The clones were screened for expression of antibody light chain. The top 12 light chain expressing clones were selected. These 12 light chain expressing clones were then screened for expression of the GPCR using a ligand binding assay. All twelve of the samples also expressed the receptor protein. The clonal cell lines and there expression are shown in Table 9.